

**REMARKS**

**The Amendments to the Specification**

Applicants have amended the abstract to more particularly describe the claimed invention.

Applicants have amended specification pages 4, 17-18, 24, 25, 44 and 85-86 to correct inadvertent typographical errors.

**The Claim Amendments**

Applicants have amended claim 1 to cancel the recitation of "(sulfoxyacyl)amino" in the definition of  $\mathbf{R}_3$  and "sulfoxy" as a substituent on aryl in the definition of  $\mathbf{R}_1$  and  $\mathbf{R}_2$ .

Applicants have amended the definition of  $\mathbf{R}_5$  in claim 1 to cancel the recitation of "- $\text{OSO}_2\text{NHCOR}_4$ ," and "- $\text{OSO}_2\text{NHCONHCO}_2\text{R}_4$ ."

Applicants have amended claims 41-42 to recite the step of administering to the subject an effective adenosine antagonizing amount of a compound of claim 1. Support for this amendment is provided in claims 40-41 as filed.

Applicants have also amended claim 41 to recited "disease or condition."

None of these amendments adds new matter. After entry of the amendments, claims 1 – 6, 11, 39 and 41-42 will be pending.

## The Rejections

### The 35 U.S.C. § 112, First Paragraph Rejection

The Examiner has rejected claims 1-6, 11, 39, 41-42 under 35 U.S.C. § 112, first paragraph for failing to comply with the written description requirement. The Examiner states that the recitation of "-OSO<sub>2</sub>NHCOR<sub>4</sub>," and "-OSO<sub>2</sub>NHCONHCO<sub>2</sub>R<sub>4</sub>" in the definition of R<sub>5</sub> is new matter.

Applicants traverse. However, to expedite prosecution of this application, applicants have canceled the recitation of these two moieties, thus obviating the Examiner's rejection.

### The 35 U.S.C. § 112, Second Paragraph Rejection

The Examiner has rejected claims 1-6, 11, 39 and 41-42 under 35 U.S.C. § 112, second paragraph. Applicants respond to the Examiner's specific contentions by paragraph number below.

#### Paragraph 1

The Examiner contends that "traumatic brain damage" in claim 41 is a condition and not a disease. The Examiner suggests the addition of "or condition" to claim 41. Applicants have amended claim 41 as suggested by the Examiner, thus obviating this rejection.

#### Paragraph 2

The Examiner contends that "sulfoxy" in "sulfoxyacyl" and as a substituent on aryl is rendered indefinite by applicants' remarks in their May 3, 2005 Reply. The Examiner

contends that a monovalent group that ends in "...oxy" is bound via an oxygen but that the structure described by applicants is attached via a sulfur.

Applicants have canceled the recitation of "sulfoxy" and "(sulfonyacetyl)amino," thus obviating the rejection.

### Paragraph 3

The Examiner contends that claims 41-42 which originally depended on claim 40, but were made independent do not recite steps.

Applicants have amended claims 41-42 to recite the step of administering to the subject an effective adenosine antagonizing amount of a compound of claim 1. This amendment overcomes the rejection.

### **The Obviousness-Type Double Patenting Rejection**

The Examiner has rejected claims 1-6, 11 and 39-42 under the judicially created doctrine of obviousness-type double patenting over claims 1 and others of United States Patent 6,649,600 ("the '600 patent"), which issued from the parent of this application. Specifically, the Examiner states that although the claims are not identical, they are not patentably distinct from each other because there is extensive overlap with the claims of the '600 patent.

Applicants will submit a terminal disclaimer when the Examiner determines that the claims are otherwise in condition for allowance.

### **The Rejection Under 35 U.S.C. § 103**

The Examiner has maintained the rejection of claims 1-4, 6 and 39 – 41 under 35 U.S.C. § 103 as allegedly being unpatentable over Suzuki '782 ("Suzuki 1"),

WO94/16702, Suzuki et al. (1992) ("Suzuki 2") or Shimada et al. (1992) ("Shimada").

Specifically, the Examiner contends that examples 29 and 11 of Suzuki 1, compounds G and E of WO94/16702, compounds 44 and 45 of Shimada and compounds 22 and 23 of Suzuki 2 show the adamantyl group with or without a methylene linker. The Examiner contends that applicants' claimed compounds are the same "except that the adamantyl has a methyl group stuck on."

Applicants disagree that the claims are obvious in view of Suzuki 1, WO94/16702, Suzuki 2 and Shimada. Contrary to the Examiner's assertion, the compounds claimed in the instant application do not simply recite an adamantyl group with a "methyl group stuck on." Rather, the claims recite an adamantyl group at the R<sub>3</sub> position that is variously substituted. The Examiner is further directed to Figures 1A and 1J of the specification which disclose several compounds having an adamantyl group which is substituted with a variety of moieties, and which applicants have demonstrated to be selective adenosine A<sub>1</sub> receptor antagonists.

Applicants respectfully submit that none of Suzuki 1, WO94/16702, Suzuki 2 or Shimada teach or suggest the substitutions claimed in the instant application or that such substitutions would result in selective adenosine A<sub>1</sub> receptor antagonists. Suzuki 1, WO94/16702, Suzuki 2 and Shimada all disclose compounds wherein the substituent at the R<sub>3</sub> position of applicants' compounds is an unsubstituted adamantyl (either with or without a methylene linker attaching the unsubstituted adamantyl group to the core structure). The skilled practitioner would find no motivation from Suzuki 1, WO94/16702, Suzuki 2 and Shimada to make compounds having adamantyl groups with applicants' specific substitutions, which are much more than "a methyl group stuck on." Accordingly, applicants' claimed

compounds are structurally non-obvious over those disclosed in Suzuki 1, WO94/16702, Suzuki 2 and Shimada, either alone or in combination. Applicants, therefore, request that the Examiner reconsider this rejection.

### **The Objections**

#### **Abstract**

The Examiner has objected to the abstract contending that it is incomplete. The Examiner contends that the essence of the invention is in R<sub>3</sub> and suggests that applicants use the abstract used in the parent.

Applicants have amended the specification as suggested by the Examiner, thus obviating this objection.

#### **Specification**

The Examiner states that the specification is objected to as having numerous typographical errors and that they should be corrected as was done in the Certificate of Correction in the parent application.

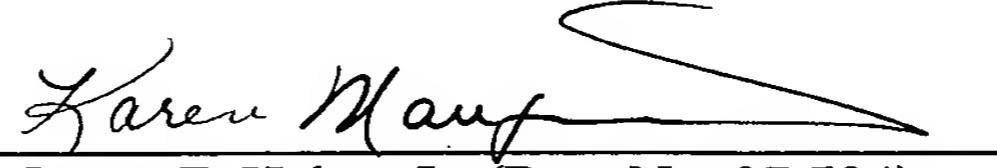
Applicants have amended the specification as suggested by the Examiner, thus obviating this objection.

Appl. No. 10/646,454  
Amdt. dated November 14, 2005  
Reply to Office Action of June 14, 2005

**Conclusion**

In view of the foregoing amendments and remarks, applicants believe that the claims are in condition for allowance. Applicants invite the Examiner to telephone the undersigned regarding any matter that may be handled by telephone to expedite the allowance of the pending claims.

Respectfully submitted,

  
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